

REMARKS

Applicant's attorney thanks the Examiner for his comments. Independent Claim 18 has been amended to indicate that the stretchable adhesive composition includes about 30-90% by weight of the atactic polymer, about 5-30% by weight of the isotactic polymer, and about 2-20% by weight of the elastomeric base polymer. Amended Claim 18 incorporates the limitations of previous Claims 49-51. Dependent Claims 23 and 49-51 have been canceled.

a) Claim Rejection Based On Double Patenting

The rejection of Claims 18-22, 24-35, 44-48 and 52-65 based on obviousness-type double patenting over Claims 1-12 of U.S. Patent 6,872,784 in view of WO 02/053688 is respectfully traversed. The Examiner opines that Claims 1-12 of U.S. Patent 6,872,784 teach the instantly claimed adhesive and WO 02/053688 teaches the claimed laminated structure.

Claims 1-12 of U.S. Patent 6,872,784 do not teach the instantly claimed adhesive. Specifically, Claims 1-12 of the reference patent do not disclose an atactic polymer in combination with the crystalline polymer and elastomer. Furthermore, the reference claims recite an adhesive composition comprising about 75-90% by weight rubber-based adhesive (elastomer) and about 10-25% by weight crystalline polymer. The disclosed range of rubber-based adhesive (elastomer) far exceeds the range of about 2-20% by weight elastomeric base polymer permitted by Applicant's claims. Furthermore, it would not be possible to add about 30-90% by weight atactic polymer (as required by Applicant's claims) to the adhesive composition disclosed in the reference patent claims without violating the disclosed percentage ranges for the rubber-based adhesive and/or the crystalline polymer.

WO 02/053688 is not assigned to Kimberly-Clark as noted by the Examiner, and has nothing to do with the invention. The publication is assigned to Hatco Corporation and discloses biodegradable polyneopentyl polyol-based synthetic ester blends and lubricants. Applicant assumes the Examiner intended to refer to WO 02/053668.

While WO 02/053668 discloses an adhesive containing an isotactic polymer and an atactic polymer, this reference cannot be combined with the claims of U.S. Patent 6,872,784 to make the instantly claimed invention. As explained above, the claims of the

reference patent require about 75-90% by weight of a rubber-based adhesive and about 10-25% by weight crystalline polymer, thereby effectively precluding the addition of about 30-90% by weight atactic polymer as required by Applicant's claims.

Accordingly, this rejection should be withdrawn.

b) Claim Rejection Based On 35 U.S.C. § 103(a)

The rejection of Claims 18-22, 24-35, 44-48 and 52-65 under 35 U.S.C. § 103(a) as obvious over WO 02/053668 ("Zhou") in view of U.S. Patent 4,857,594 ("Lakshmann et al.") is respectfully traversed. Applicant's Claim 18 (the only independent claim) recites a laminated structure including a stretchable adhesive composition having a specific composition and a unique combination of properties. The claimed laminated structure has a 180° static peel strength (time to fail) of at least about six hours and a dynamic peel strength after 85% stretch of at least about 2000 grams per 2-inch width.

Zhou discloses an adhesive material including a combination of atactic and isotactic polymers. Zhou indicates that this combination alone (without other ingredients) provides improved bond characteristics compared to conventional hot melt adhesives (p. 3 lines 10-18). While other additives and materials can be included, no advantage is seen from this (p. 3 lines 18-21). The atactic polymer is present at about 50-90% by weight, and the isotactic polymer is present at about 5-50% by weight of the adhesive composition (p. 5 lines 9-12). No elastomer is disclosed.

Zhou does not disclose an adhesive composition exhibiting both a 180° static peel strength of at least about six hours and a dynamic peel strength after 85% stretch of at least about 2000 grams per 2-inch width. As explained in Applicant's specification (pp. 31-32), the dynamic peel strength was measured after stretching the laminate by 85%, and the stretching caused no loss of bond strength. Neither the laminates nor the adhesive in Zhou are disclosed as being stretchable, and there is no basis for assuming that the laminates a) can be stretched by 85% and b) if so, would exhibit a dynamic peel strength after stretching of at least about 2000 grams per 2-inch width.

Some of the laminates in Zhou exhibited a static peel strength of six hours or more (Examples 2-6, p. 36 line 16 – p. 42 line 4). For some of these laminates, the dynamic peel strength was measured without first stretching the laminates (Examples 5 and 6, p. 39 line 21 – p. 42 line 2). The dynamic peel strengths for the adhesive blends of

atactic and isotactic polypropylene ranged from 870 grams/in to 1580 grams/in. Again, it is important to note that these adhesives contained no elastomer and there was no stretching of the laminates by 85% before performing the dynamic peel test. An adhesive which has little or no stretchability (due to absence of an elastomer) would not be expected to maintain its adhesion after an 85% stretch of the laminate, if the laminate could be stretched by that amount.

Lakshmann et al. discloses a melt adhesive composition containing an amorphous polypropylene, an elastomeric block copolymer and a tackifier. The composition provides improved adhesion in applications such as packaging films, wax-coated paper, paperboard boxes and injection molded objects and containers (Col. 1 lines 55-66). The reference discloses the further inclusion of tackifier as an essential ingredient (Col. 4 lines 30-59). In other words, three ingredients together (namely amorphous polypropylene, elastomer and tackifier) are considered essential to the disclosed adhesive compositions (Col. 4 line 60 – Col. 5 line 8). This is in contrast to Zhou, which discourages the use of ingredients other than the two atactic and isotactic polymers (p. 3 lines 10-18).

This distinction is further demonstrated in the Examples of Lakshmann:

An inspection of the data in Table III shows that when amorphous polypropylene is used alone as an adhesive in Run No. 1 some level of adhesion is obtained to high density polyethylene (HDPE) and polypropylene (PP) surfaces. When amorphous polypropylene was combined solely with a selectively hydrogenated block copolymer composed of styrene and ethylene butylene polymer blocks (Kraton GX-1657) in Run No. 2, no appreciable improvement in adhesion to a HDPE surface was achieved and adhesion to polypropylene was significantly reduced. When the same selectively hydrogenated block copolymer was combined solely with a tackifier in Run No. 7 no adhesion at all was obtained. When in Run No. 8 amorphous polypropylene was combined solely with a tackifier, the results were inferior to Run No. 1. The use of Kraton GX-1657, a wax and a tackifier, but no amorphous polypropylene, in Run No. 6 resulted in a composition exhibiting no adhesivity. Note, however, than in Runs Nos. 3, 4 and 5 wherein an adhesive containing the selectively hydrogenated block copolymer Kraton GX-1657, amorphous polypropylene and a tackifier was tested, unexpected and dramatic improvements in adhesive

performance was obtained in both HDPE and PP surfaces.
(Col. 9 line 17 – Col. 10 line 25)

As shown above, Lakshmann et al. does not teach improved adhesiveness resulting from adding an elastomer to atactic polypropylene alone, or to a combination of atactic and isotactic polypropylenes. According to Lakshmann et al., the improved adhesiveness is only established when atactic polypropylene is combined with both a tackifier and an elastomer. There is no suggestion to add an elastomer to a composition whose only other essential component is atactic polypropylene, or a combination of atactic and isotactic polypropylenes. As indicated above, the data in Lakshmann et al. teach away from adding an elastomer only to atactic polypropylene.

In summary, Zhou discourages the use of a tackifier whereas Lakshmann et al. considers it an essential ingredient. Zhou makes no mention of an elastomer whereas Lakshmann et al. considers it an essential ingredient. The only common feature of the adhesives disclosed in Zhou and Lakshmann et al. is the required inclusion of an atactic polymer (e.g. atactic polypropylene). The references otherwise diverge in their teachings, and provide no motivation or suggestion to make the adhesive composition in Applicant's claimed laminate.

Lakshmann et al., like Zhou, fails to suggest an adhesive composition which provides a dynamic peel strength after 85% stretch of at least about 2000 grams per 2-inch width. Most of the disclosed substrates are not stretchable, and there is no testing which includes a stretching step.

Accordingly, this rejection should be withdrawn.

c) Conclusion

Applicant believes that the claims, as now presented, are in condition for allowance. If the Examiner detects any unresolved issues, then Applicant's attorney respectfully requests a telephone call from the Examiner, and a telephone interview.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Maxwell J. Petersen".

Maxwell J. Petersen
Registration No. 32,772

Pauley Petersen & Erickson
2800 West Higgins Road; Suite 365
Hoffman Estates, Illinois 60195
TEL (847) 490-1400
FAX (847) 490-1403